



DRILL HOLE RECORD

Location Que River Area **Property** Mackintosh EL 2/70 **District** Tasmania, Australia **Bearing (M)** 106° 06' **Hole No** QR 52
Commenced 16.7.1975 **Completed** 27.7.1975 **% Recovery** 99 **Grid bearing (M)** 8.75 **Date** 2.8.1975
Objective To test for north plunge extension of P lens ore grade mineralization intersected in QR 32. **Core size** NQ to 172 m, BQ to 362 m E.O.H. **Logged** C.H. YOUNG
Co-ordinates 7993.1N 4944.3E **Dip** 55° 45' **Alt./R.L.** 673.6

SURVEY DATA				GRAPH DERIVED DATA			CALCULATED CO-ORDINATES			REMARKS
DEPTH	DIP	BEARING(M)	INSTRUMENT TYPE	DEPTH	DIP	BEARING(M)	NORTHING	EASTING	ALTITUDE	
0	55	106	Clinometer & Tube Compass	0	55.75	106	7993.1	4944.3	673.6	
0	55° 45'	106° 06'	Theodolite	25	55	106	7991.3	4958.4	653.0	
20	56	108	Eastman	50	54	106	7989.5	4972.8	632.7	
49	53.75	108	Single Shot	75	51.5	106	7987.6	4987.8	612.8	
80	51	108	Camera	100	49.5	106.5	7985.5	5003.6	593.5	
109	48.5	109	" "	125	48	107	7983.2	5019.9	574.7	
128	47.5	109.5	" "	150	47	107.5	7980.7	5036.6	556.3	
180	46.5	110	" "	175	46.5	107.5	7978.1	5053.5	538.1	
211	45	110	" "	200	45.5	108	7975.4	5070.7	520.1	
241	42	110.5	" "	225	43.5	108	7972.5	5088.3	502.6	
268	38.75	112	" "	250	41	108.5	7969.5	5106.5	485.8	
302	34.25	112.5	" "	275	38	109.5	7966.0	5125.5	469.9	
332	30	115	" "	300	34.5	110.5	7962.1	5145.3	455.1	
				325	30.5	112	7957.5	5165.8	441.7	333.7 - 334.2 m Pyrite 10% in sheared
				350	28	113.5	7952.2	5187.0	429.4	PyP ₁ unit interpreted P lens position.
				362	27	114	7949.5	5197.3	423.9	



DIAMOND DRILL LOG

Hole No QR 52 Page No 3.

Feature :

Bedding

Foliation

Fragment-size & shape

Shearing

Fault

Vein

c carbonate
q quartz

Mineralization :

Trace 1-5%

Common 5-15%

Abundant 15-60%

Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
	50.7	<p>PyP₁ Gradational Contact.</p> <p>Grey carbonated locally sericitised coarse <u>lithic feldspar crystal tuff</u>.</p> <p>Lithic fragments consist of grey porphyritic lava (white carbonate after feldspar) <u>irregular in outline</u> to 3 cm occasionally to 6 cm (fragment outlines are generally obscure).</p> <p>Fine grey tuff and grey recrystallised chert have been noted.</p> <p>Feldspar crystals represented by irregular white aggregates to 3 mm of carbonate are randomly distributed throughout the matrix.</p> <p>The rock has some DTL characteristics.</p> <p>The matrix is fine grained grey in colour and siliceous.</p> <p>There is a crude fragment alignment at 30° to core axis.</p> <p>Below 53.7 m the rock is grey carbonated locally sericitised lithic feldspar crystal tuff agglomerate similar to above, fragments are now appreciably larger, to 6 cm and feldspar crystals are less abundant.</p>						50.7	Pyrite 2%-3% as above, locally 5%.
	53.7							62.0	Pyrite 20% as irregular veins and aggregates of fine subhedral to euhedral crystals.
	55							63.8	
	60							65.4	Pyrite 1%-3% as disseminations and irregular veins.
	65.4	<p>DTL Gradational Contact.</p> <p>Buff to grey carbonated <u>feldspar crystal tuff-lava</u>.</p> <p>Feldspar crystals represented by irregular white aggregates of carbonate to 3 mm, less commonly by sericite are randomly distributed. The rock is generally fine grained, the matrix or groundmass is siliceous and carbonated.</p> <p>Lithic fragments of dacitic tuff-lava to 2 cm have been noted.</p> <p>There is a weak flow banding at various core angles about a mean of 40° to core axis. 73 m Chlorite cemented fault breccia.</p> <p>The rock is subject to pervasive pyritisation causing grey colouration.</p> <p>Aggregates of green illite-hydromuscovite to 5 mm have been noted.</p>						75	



DIAMOND DRILL LOG




Feature : Bedding Shearing
 Foliation Fault
 Fragment - size & shape Vein carbonate
 quartz




Mineralization : Trace 1-5%
 Common 5-15%
 Abundant 15-60%
 Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
		DTL as above.							Pyrite 1%-3% as disseminations and irregular veins.
	3.0								
	105								
	3.0								104.5 Pyrite 5% as disseminations aggregates and fracture filling.
									105.0 Pyrite 1%-3% as above.
	3.0								
	110								
	3.0								
	113.7	Sharp Contact at 40° to core axis.							113.0 Pyrite 5% as disseminations and aggregates.
	3.0	PyP ₁							113.7 Pyrite 2%-3% as disseminations, aggregates filling fractures and occasionally fragments.
	115	To 114.5 m tuff then tuff-agglomerate.							
		Grey locally carbonated and sericitised lithic tuff agglomerate.							
	3.0	Lithic fragments from 0.5 m to 5 cm are generally sub-rounded (abraded) and are thus transported volcanic debris. They consist of altered porphyritic dacite, sericitised trachyte and occasionally chert and pyrite. Irregular quartz aggregates may represent devitrified glass.							
	120	Streaks of sericite occasionally wrap around fragments.							117.9 Rare secondary galena as aggregates to 5 mm.
	3.0	The matrix is grey to light grey and consists mainly of quartz and carbonates.							
	2.3	The fragments become larger towards the base of the unit illustrating a crude graded bedding. (Stratigraphic top is up hole.)							
	124.4								
	0.65	125 - Grey sericitised coarse lithic tuff, there is increased sericite and the rock							






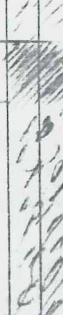



DIAMOND DRILL LOG

Feature : Bedding 
 Foliation 
 Fragment-size & shape 

Shearing 
 Fault 
 Vein  c carbonate
 q quartz

Mineralization : Trace 1 5%
 Common 5 15%
 Abundant 15 60%
 Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
	3.0	PyP ₁ as above.							Pyrite 5% as above.
	3.0	Foliation 35° - 40° to core axis.							
	180							180.0	Pyrite 5% - 10% as disseminations and aggregates.
	3.0								
	183.6							184.2	Aggregates of chalcopyrite to 1 cm.
	3.0	Grey carbonated and locally sericitised lithic tuff agglomerate.							
	185	Fragments are irregular to sub-rounded generally of porphyritic lava (DTL) there are also bands of mixed fragment types as described above.						189.0	Pyrite 5% as disseminations and aggregates.
	3.0	Below 189 m the rock is locally sheared and disrupted.							
	2.0	190							
	1.0	190.6 <u>Fault zone</u> Pug, sheared and broken core 55° to core axis.							
	3.0	192.5 Locally sheared at 45° - 60° to core axis. Foliation 45° to core axis.						196.3	Pyrite 10% as disseminations, aggregates and irregular veins.
	3.0	195.3 <u>Fault zone</u> Pug, sheared and broken core 45° to core axis. The rock is now less sheared although locally disrupted.						197.0	Pyrite 5% as above.
	3.0	200							



DIAMOND DRILL LOG

Feature : Bedding
 Foliation
 Fragment size & shape

Shearing
 Fault
 Vein c carbonate
 q quartz

Mineralization : Trace 1-5%
 Common 5-15%
 Abundant 15-60%
 Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
	201.3	15 cm recemented breccia.							Pyrite 5% as above.
	205.2	DTL. Gradational Contact. Very similar to the PyP ₁ above. Grey to buff carbonated lithic tuff agglomerate. Fragments are irregular to sub-rounded buff coloured porphyritic lava, feldspar phenocrysts are represented by aggregates of pale green sericite. The groundmass is fine grained siliceous and carbonate rich.						205.2	Pyrite 2%-3% locally 5% as disseminations and aggregates.
	210	There are occasional fragments of sericitised trachyte? The matrix is grey pyritised and siliceous. Aggregates of green illite-hydro-muscovite to 3 mm have been noted. There are minor zones of fragmental PyP ₁ rock.						210.2	Trace secondary sphalerite and galena as aggregates to 5 mm with carbonate.
	215	Below 222.0 m parts of the unit appear to be autobrecciated. There is a crude fragment alignment or foliation at 40° to core axis.							
	222.0							222.0	Pyrite 2%-3% as disseminations, aggregates and irregular veins.
	225								



DIAMOND DRILL LOG

Feature : Bedding
 Foliation
 Fragment-size & shape

Shearing
 Fault
 Vein
 c carbonate
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
Mineralization : Trace 1-5%
 Common 5-15%
 Abundant 15-60%
 Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
	2.3	trachyte and occasionally fine grey tuff. The rock is partly disrupted, fragment outlines are often obscure.							Pyrite 2%-3% as above with rare disseminated sphalerite and galena.
	2.7	The matrix is grey to light grey in colour and fine grained, often siliceous and ashy but more commonly heavily carbonated. Foliation commonly 45° to core axis.							
	255								
	3.0								
	257.5								
	3.0	Fragments are now larger often greater than 3.2 cm. The rock is grey carbonated lithic tuff agglomerate.							
	260	Fragments of grey recrystallised chert have been noted.							
	3.0								
	265								
	3.0	Grey locally sericitised coarse lithic tuff. Fragments are less than 3 cm.							
	266.1	<u>Fault zone</u> Some pug, 50% sheared and broken core at 60° to core axis.							
	1.0								
	268								
	2.0								
	270	Fractures 30° - 50° to core axis.							
	3.0								
	272								
	3.0	Grey locally carbonated lithic tuff agglomerate. Fragments of off-white to buff feldspar crystal tuff-lava are now common.							
	275								
								274.3 3 cm pyrite 40% trace sphalerite and galena.	



DIAMOND DRILL LOG

Hole No **QR 52** Page No 13.

Feature : Bedding 
 Foliation 
 Fragment - size & shape 

Shearing 
 Fault  F
 Vein  c carbonate
 q quartz

Mineralization : Trace 1-5%
 Common 5-15%
 Abundant 15-60%
 Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
1.0	300.5	PyP ₁ as above.						300.5	Pyrite 2%-3% as above.
0.55		Grey to buff locally carbonated coarse lithic feldspar crystal tuff. (Possibly a variety of DTL). Irregular fragments of buff to pale green feldspar crystal tuff-lava from 0.5 mm to 3 cm are common towards the base of this unit.							Pyrite 2%-3% as disseminations and irregular aggregates of fine subhedral to euhedral crystals.
2.3									
3.0	305	Aggregates of pale grey to green sericite represent feldspar crystals randomly distributed through the matrix. The matrix is grey fine grained and siliceous. There are minor fragmental bands and the rock is fractured or auto-brecciated often giving a pseudo fragmental appearance.							
1.0									
3.0	310								
3.0	311.2	DTL Buff to grey carbonated lithic tuff-lava. (Feldspar crystal.)						311.2	Pyrite 3% as disseminations and aggregates.
3.0		Feldspar crystals are represented by green aggregates of sericite to 2 mm elongated in the direction of foliation at 60° to core axis.							
3.0	315	The matrix or groundmass is grey fine grained and siliceous. Minor fracturing or autobrecciation tends to give a pseudo fragmental appearance.							
3.0	317	Lithic feldspar crystal tuff agglomerate. Similar to above.							
3.0		Fragments of dacitic tuff-lava up to 10 cm are irregular to sub-rounded in a pyritic and siliceous grey coloured matrix.							
3.0	320								
3.0	321.2	Buff to grey carbonated feldspar crystal lithic tuff-lava as above 317 m.							
3.0	323.75	PyP ₁ Buff to grey lithic tuff agglomerate. This rock appears to be a hybrid							



DIAMOND DRILL LOG

Hole No **QR 52** Page No 14.

Feature : Bedding Shearing
 Foliation Fault
 Fragment-size & shape Vein carbonate quartz

Mineralization : Trace 1-5%
 Common 5-15%
 Abundant 15-60%
 Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
		mixture of DTL and PyP ₁ types.							Pyrite 3% as above.
	3.0	Fragments of buff coloured carbonated feldspar crystal tuff-lava are irregular to sub-rounded average size 2 cm up to 10 cm. Some grey re-crystallised chert and grey tuff has been noted.							
	3.0	The matrix is grey pyritic and siliceous with an "ashy" appearance.							
	3.0	There is a crude fragment alignment at 60° to core axis.							
	3.0	333.7						333.7	Pyrite 10% as disseminations aggregates
	3.0	334.2 <u>Fault zone Pug, sheared and broken.</u>						334.9	and irregular veins. Pyrite 2%-3% as disseminations and aggregates.
	3.0	Below the fault the rock is sericitised and weakly sheared down to 334.9 m.							
	3.0	340							
	3.0	341.0						341.0	Pyrite 2%-3%, locally 5%, as disseminations and aggregates generally within the matrix.
	3.0	PyP ₂ The rock is fractured sub-parallel to C.A., chlorite is common on fracture planes and recements a minor breccia zone down to 342.5 m.							
	3.0	Light grey lithic tuff agglomerate.							
	3.0	Down to 349 m the rock maybe a porphyritic dacitic lava, pale green sericite aggregates and brown carbonate aggregates to 4 mm may represent feldspar phenocrysts randomly distributed in a grey to buff siliceous matrix.							
	3.0	Pyrite filled fractures are considered to give a fragmental appearance.							
	3.0	Below 349 m the rock is more obviously fragmental. Fragments are irregular in outline pale grey to off-white in colour with a "shredded" appearance.							
	3.0	350							



DIAMOND DRILL LOG

Feature :

Bedding

Foliation

Fragment-size & shape

Shearing

Fault

Vein

c carbonate
q quartz

Mineralization :

Trace 1-5%

Common 5-15%

Abundant 15-60%

Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
	5.0	The matrix consists of devitrified sericitised shards grey in colour due to pyrite.	<i>[Handwritten notes]</i>						Pyrite 2%-3% locally 5% as above.
	3.0								
	355							354.9	Pyrite 10% as disseminations and aggregates within the matrix.
	355.7							355.1	
	355.7							355.7	
	3.0	<u>Pale green lithic feldspar crystal tuff agglomerate.</u>	<i>[Handwritten notes]</i>						Pyrite 2%-3% as disseminations and irregular veins.
	3.0	Similar to the PyP ₂ above however green in colour due to decreased pyrite content.							
	3.0	Lithic fragments are irregular with "shredded" outlines, pale green porphyritic (feldspar) lava up to 6 cm. The shredding of fragments is a shearing effect. Phenocrysts within the fragments are commonly pale brown in colour sericite and carbonate aggregates after feldspar.							
	360								
	362	E.O.H.							
		Feldspar crystals up to 3 mm are thinly dispersed throughout and are represented by aggregates of carbonate-chlorite-sericite-albite (semi-pseudomorphs of plagioclase crystals.)							
		The matrix consists of devitrified sericitised eutaxitic shards in a chlorite-sericite-carbonate-quartz rich base.							